Amendments to the Claims:

This listing of claims will replace all prior listings of claims in the application:

Listing of Claims:

1. (currently amended) A method of screening *in vitro* for modulators of RDGC GPCR phosphatase activity, the method comprising the steps of:

(i) providing a sample comprising a ~~G-protein coupled receptor~~ rhodopsin G protein coupled receptor and a ~~recombinant~~ heterologous Drosophila RDGC phosphatase comprising the sequence set forth in SEQ ID NO:1;

(ii) contacting the sample with a test compound suspected of having the ability to modulate RDGC GPCR phosphatase activity; ~~and~~

~~(iii) detecting a change in the level of Drosophila RDGC GPCR phosphatase activity in the sample in comparison to the level of activity in the absence of the test compound, thereby detecting RDGC GPCR phosphatase activity~~

(iii) providing a second sample comprising a mutant rhodopsin lacking the last 18 amino acids at the cytoplasmic terminus as compared to wild type and a Drosophila RDGC phosphatase comprising the sequence set forth in SEQ ID NO:1;

(iv) contacting the second sample with the test compound suspected of having the ability to modulate RDGC GPCR phosphatase activity;

(v) detecting Drosophila RDGC GPCR phosphatase activity in the second sample; and

(vi) comparing the level of Drosophila RDGC GPCR phosphatase activity in the first sample and the second sample, thereby detecting RDGC GPCR phosphatase activity.

2. (cancelled)

3. (cancelled)

4. (cancelled)

5. (currently amended) The method of claim 4 1, wherein the rhodopsin is ~~recombinant~~ heterologous.

6. (previously presented) The method of claim 1, wherein the step of detecting comprises a G-protein coupled receptor phosphorylation assay.

7. (previously presented) The method of claim 1, wherein the step of detecting comprises a G-protein coupled receptor mobility assay.

8. (previously presented) The method of claim 1, wherein the step of detecting comprises a G-protein coupled receptor signal transduction assay.

9. (previously presented) The method of claim 1, wherein the sample comprises a cell.

10. (previously presented) The method of claim 9, wherein the cell is selected from the group consisting of a eukaryotic cell, an insect cell, a mammalian cell.

11. (previously presented) The method of claim 10, wherein the cell is selected from the group consisting of a Drosophila cell or a human cell.

12. (previously presented) The method of claim 1, wherein the sample comprises a membrane comprising a G-protein coupled receptor.

13. (previously presented) The method of claim 1, wherein the sample comprises an aqueous sample or a solid-phase sample.

14. (cancelled)

15. (currently amended) A method of screening a cell for modulators of RDGC GPCR phosphatase activity, the method comprising the steps of:

(i) providing a cell sample comprising rhodopsin and a heterologous Drosophila RDGC phosphatase comprising the sequence set forth in SEQ ID NO:1;

(ii) contacting the sample with a test compound suspected of having the ability to modulate RDGC GPCR phosphatase activity; ~~and~~

~~(iii) detecting a change in the level of Drosophila RDGC GPCR phosphatase activity in the sample in comparison to the level of activity in the absence of the test compound thereby detecting RDGC GPCR phosphatase activity.~~

(iii) providing a second sample comprising a mutant rhodopsin lacking the last 18 amino acids at the cytoplasmic terminus as compared to wild type and a Drosophila RDGC phosphatase comprising the sequence set forth in SEQ ID NO:1;

(iv) contacting the second sample with the test compound suspected of having the ability to modulate RDGC GPCR phosphatase activity;

(v) detecting Drosophila RDGC GPCR phosphatase activity in the second sample; and

(vi) comparing the level of Drosophila RDGC GPCR phosphatase activity in the first sample and the second sample, thereby detecting RDGC GPCR phosphatase activity.

16. (cancelled)

17. (currently amended) The method of claim 15, wherein the rhodopsin is ~~recombinant~~ heterologous.

18. (cancelled)

19. (previously presented) The method of claim 15, wherein the cell is selected from the group consisting of a eukaryotic cell, a mammalian cell, an insect cell.

20. (previously presented) The method of claim 19, wherein the cell is selected from the group consisting of a Drosophila cell or a human cell.

21. (cancelled)

22. (previously presented) The method of claim 15, wherein the sample comprises an aqueous sample or a solid-phase sample.

23. (cancelled)

24. (currently amended) A method of screening *in vivo* for modulators of RDGC GPCR phosphatase activity, the method comprising the steps of:

(i) providing an animal comprising a cell comprising a rhodopsin G-protein coupled receptor and a heterologous Drosophila RDGC phosphatase comprising the sequence set forth in SEQ ID NO:1;

(ii) contacting the animal with a test compound suspected of having the ability to modulate RDGC GPCR phosphatase activity; ~~and~~

~~(iii) detecting a change in the level of Drosophila RDGC GPCR phosphatase activity in the animal in comparison to the level in the absence of the test compound thereby detecting RDGC GPCR phosphatase activity.~~

(iii) a second sample comprising a mutant rhodopsin lacking the last 18 amino acids at the cytoplasmic terminus as compared to wild type and a Drosophila RDGC phosphatase comprising the sequence set forth in SEQ ID NO:1;

(iv) contacting the second sample with the test compound suspected of having the ability to modulate RDGC GPCR phosphatase activity;

(v) detecting Drosophila RDGC GPCR phosphatase activity in the second sample; and

(vi) comparing the level of Drosophila RDGC GPCR phosphatase activity in the first sample and the second sample, thereby detecting RDGC GPCR phosphatase activity.

25. (cancelled)

26. (cancelled)

27. (cancelled)

28. (currently amended) The method of claim ~~27~~ 24, wherein the rhodopsin is ~~recombinant~~ heterologous.

29. (previously presented) The method of claim 24, wherein the step of detecting comprises a G-protein coupled receptor phosphorylation assay.

30. (previously presented) The method of claim 24, wherein the step of detecting comprises a G-protein coupled receptor mobility assay.

31. (previously presented) The method of claim 24, wherein the animal is selected from the group consisting of an insect and a mammal.

32. (cancelled)

33. (cancelled)

34. (cancelled)

35. (cancelled)

36. (cancelled)

37. (cancelled)

38. (cancelled)